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First record of Longnose marbled whipray *Fluvitrygon oxyrhyncha* (Sauvage, 1878) (Myliobatiformes: Dasyatidae) in Malaysian waters

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Stingrays of family Dasyatidae are highly adapted and successful family that occur in tropical and temperate areas worldwide (Last & Stevens 1994; Last & Compagno 1999). Members of the family are found in marine, brackish, and freshwaters, and are known in Pacific, Indian, and Atlantic Ocean (Luciflora *et al*. 2015; Nelson *et al*. 2016). Several species are euryhaline and ascend rivers, while some species are confined to freshwaters (Compagno & Cook 1995; Last & Compagno 1999). Stingrays are well known for their inherent vulnerability to population decline and collapse (Compagno *et al*. 2002; Grant *et al*. 2019). Many of stingrays species have been evaluated for extinction risk, due to their occurrence in overfishing and restricted habitats (White *et al*. 2010; Last *et al*. 2016a).

The Longnose marbled whipray *Fluvitrygon oxyrhyncha* (Sauvage, 1878) is one of the few stingrays that is truly in freshwaters (Last *et al*. 2016b). This species was noted as *F. oxyrhynchus* on FishBase, but it was submitted to The IUCN Red List in 2016 as *F. oxyrhyncha* (Compagno 2016). Previously, *F. oxyrhyncha* was considered as a junior synonym of *Himantura uarnak* (Gmelin, 1789) (Compagno & Roberts 1982). Re-examination of the holotype of *F. oxyrhyncha* by Deynat & Fermon (2001) confirmed that *F. oxyrhyncha* is distinct from *H. uarnak*, and a senior synonym of *H. krempfi* (Chabanaud 1923). This species is very rare, only five specimens in museum collections worldwide (Compagno 2016). Specifically known only in tropical freshwater habitats, where it's threatened with fisheries, pollution, logging in the catchment areas and river engineering projects and while being a desirable aquarium species (Compagno 2016). It is only known from Mekong River, Cambodia (Compagno & Roberts 1982; Kottelat *et al*. 1985), Chao Phraya River, Thailand (Cook & Compagno 1994), Mahakam River, Indonesia (Last *et al*. 2010), and Musi River (Iqbal *et al*. 2017). In this paper, we report on the presence of *F. oxyrhyncha* in the Pahang River, Kuala Lipis District, Pahang, Malaysia, which documented an extension of the known distribution range for this species.

Figure 1. Location of *F. oxyrhyncha* (red square) found in Pahang River, Kuala Lipis Dsitrict, Pahang, Malaysia.

An individual specimen of *F. oxyrhyncha* (60 cm of total length) (Fig. 1) was landed and photographed on 3 August 2020 in Pahang River, Kuala Lipis District, Pahang, Malaysia (4°05'12"N; 102°16'03"E) (Fig. 2). This specimen was collected by local angler using small sized hook. Diagnostic morphological characters of the specimen were analyzed under consideration of the methods by Last *et al*. (2010). Morphometric characters of *F. oxyrhyncha* are given in Table 1.

Table 1. Comparison of morphomtric of *F. oxyrhyncha*.

Characters (cm)	Present study	Compagno & Roberts (1982)
Total length	60	35.7
Disc width	19.1	-
Disc length	23.8	11.7
Disc thickness	2.8	1.33
Eye length	0.6	0.52
Interorbital width	2.2	1.16
Snout length	7.9	3.36
Snout to maximum width	15.5	9.91
Spiracle length	0.7	0.64
Interspiracular width	2.4	1.59
Tail width at base of sting	0.89	0.87
Tail height at base of sting	0.79	0.78
Sting length	5.6	-
Pelvic fin base	1.51	1.48
Cloaca origin to tail tip	40.9	-
Cloaca origin to sting	11.4	-

Stingray specimen captured in Pahang River, Kuala Lipis District, Pahang, Malaysia was identified as *F. oxyrhyncha* by the morphological characters: band of denticles on central disc with large pearl thorn, disc profile oval with long, sharply pointed tip; elongated snout; long tail, broad-based, whip-like and spotted; no skin folds on tail; very small eyes. Coloration of fresh specimens: dorsal surface brownish with an ornate reticulate pattern but obscured or absent on distal third of disc. These characters fit the description of *F. oxyrhyncha* (Last *et al*. 2010). The morphological characters of *F. oxyrhyncha* in Pahang River are similar to other spesimen from around the world, including the specimen of *F. oxyrhyncha* in Mekong River, Cambodia (35.7 cm of total length) (Compagno & Roberts 1982), and the specimen of *F. oxyrhyncha* in Musi River, Sumatra, Indonesia (61 cm of total length) (Iqbal *et al*. 2017).

Figure 2. *Fluvytrigon oxyrhyncha*, Pahang River, Kuala Lipis District, Pahang, Malaysia (Photo: Mohd. Iqbal).

Until today, there is not report of *F. oxyrhyncha* from Malaysia, and information regarding the extent of the Longnose marbled whipray's distribution and abundance is scarce. The evidence of *F. oxyrhyncha* in Pahang River, Kuala Lipis District, Pahang, is the first record in Malaysia, and the fourth record beyond previous records from the Southeast Asia regions (Thailand, Cambodia, and Indonesia) (Compagno 2016). Among other biological topics, the new record of rare non-marine elasmobranchs is an important contribution to raise an understanding of species diversity and biogeography (Hasan & Widodo 2020; Hasan & Islam 2020). As reported in this paper, the new record of *F. oxyrhyncha* will contribute to improve the knowledge of the species as it extends the distribution range of the species in Malaysia. In the future, data collection assisted by local angler is needed to assess the occurrence of *F. oxyrhyncha* and evaluate the importance of Malaysia as a habitat for Longnose marbled whipray (Last *et al*. 2016a; Compagno 2016).

Similar to the rivers on other regions in the Southeast Asia, the rivers in Malaysia have many dams as a consequence of intensification of agriculture, so the displace *F. oxyrhyncha* habitats into settlements is encouraged since Longnose marbled whiprays are able to inhabit artifical aquatic environments (Last *et al*. 2010). Dam buildings represent a potential threat for non-marine elasmobranchs species like Longnose marbled whipray and may prevent their upstream movement. These intensive human activities greatly affect the life cycle of several amphidromous fish such as freshwater eals and sicydiinae gobies (Hasan *et al*. 2021; Gani *et al*. 2021), and potentially *F. oxyrhyncha.* The Longnose marbled whipray is listed as Endangered (EN) on a global scale by the IUCN Red List (Compagno 2016). Compagno (2016) gave the information that

the occurrence of *F. oxyrhyncha* in freshwaters makes the species very vulnerable to human impact and habitat modification.

Just like any other freshwater stingrays species, *F. oxyrhyncha* is not the main commodity of fisheries in Malaysia because the number of its individual is very rare. There is no official record of how many *F. oxyrhyncha* are caught because these fish are not a target species in Malaysia's commercial fisheries. Although *F. oxyrhyncha* are not normally targeted, they are commonly taken in recreational fisheries (Compagno 2016). The Malaysian government needs to strictly prohibit the practice of catching freshwater stingrays, especially *F. oxyrhyncha* (Last *et al*. 2010; Last *et al*. 2016b).

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